



THOMAS G. NEWMAN,
EDITOR.

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EDITORIAL BUZZINGS.

Right is right—ever will be,
And right the day must win;
To doubt would be disloyalty,
To falter would be sin.

The Baltimore Farmer reviews our book—"Bees and Honey"—and gives it a very favorable notice. Thanks.

Ammonia, as a bee-sting remedy, is one of the best—that alkali naturally tends to neutralize the acid of the poison.

The "Nebraska Bee-Keeper" is the name of a new bee-paper just started by L. D. Stilson & Sons, and edited by the father. It contains 16 pages, and the second number is on our desk. It is to be published monthly, and as there is no price stated, we presume it is for free distribution among the members of the Nebraska Association. It makes a creditable appearance, and we wish it success.

Bees may be trespassers as well as our domestic animals. In a pending case the Court of Appeals has been reached; all Courts below pronouncing in favor of the plaintiff who sued for damages because the bees invaded the flower-bed in his yard, and stung members of the family.—So says the Western Rural.

We may have been asleep—but we think not! Will the Rural kindly give us the "particulars" of this very interesting case. As Manager of the National Bee-Keepers' Union, we have had full charge of all lawsuits of this character, but of the one mentioned, we have no knowledge. It is evidently another hoax!

Honey Statistics.—On July 18, 1890, Mr. A. I. Root, editor of *Gleanings in Bee-Culture*, sent out a list of questions to special reporters all over the United States, thereby endeavoring to ascertain the extent of the crop of white honey secured this year. In summarizing the various replies to the queries propounded, Mr. Root comments as follows:

With very few exceptions, as we stated in our last issue, the prospects are poor, and the average yield per colony is exceedingly moderate. But as the reports were sent out a little early, it is not impossible that things will brighten up a little, even yet. In fact, white clover seems to be hanging on in some localities, where it was expected that the yield from that source had entirely ceased.

California looms up with a large crop of honey, and that means a good deal, for this State produces not a small percentage of all the honey produced in the United States. Colorado has one reporter, and he says, "Fair to good." Arizona, the State where alfalfa is produced, reports about 90 pounds per colony. Minnesota does not seem to be uniform. In east-central and eastern part of the State there is but very little honey; but in the central and west-central parts, the yield seems to have been good. Wisconsin, another usually good State, has also no honey of any account. Indiana, California, Arizona, Virginia, West Virginia, and Washington, report the prospects good. Almost all the rest of the States are reported poor.

Fruits will be rather scarce, and the bee-keeper has not fared any worse than many of those engaged in kindred industries.

On July 28, 1890, the *Canadian Bee Journal* also sent out requests for reports regarding the honey crop "covering the entire Dominion, from Winnipeg to Nova Scotia and New Brunswick." The editor then recapitulates the answers as follows:

The reports may be summarized in brief, to say that all taken together the crop throughout the country is small, perhaps even below last year. New Brunswick and Nova Scotia have done but very little either in increase or honey crop. Quebec is the same, only more so. Ontario reports would indicate that, on the whole, swarming has been good, while the crop of honey is below the usual average. In some sections the yield has been excellent, notably York county, with Peel and Wellington not far behind. Simcoe is behind in the race, neither clover nor basswood having done anything much. The trouble with a great many colonies, was that the bees were too weak to gather what did come. Oxford county is medium. The writer was through a portion of that county last week, and visited one or two apiaries.

There is no question as to the scarcity of peaches, plums, pears, etc., and with this fact in view, honey-producers should be firm in their prices. The remarks of one or two of our correspondents in this direction should be heeded. We should advise that no honey be sold at wholesale at less than 10 cents per pound.

The Honey in France is very thin and watery. They have had too much rain, while, in America, we have been scorched by the burning rays of the sun. Had the moisture been more evenly distributed, it would have been far better.

Bees as Ventilators.—The St. James Gazette, of London, England, is responsible for this item of foreign news:

I do not know whether it is generally known that in India, and I believe in other tropical countries, there are in every hive what one can only describe as "ventilating bees." I mean that during the hot season two or three bees post themselves, on their heads, at the entrance of the hive and fan the interior with the incessant motion of their wings. They are relieved at intervals by fresh bees, who carry on the process. They are kept to their duty by a sort of patrol of bees to insure their incessant activity. This is a well authenticated and known fact.

It is certainly "generally known" in America that bees fan with their wings for purposes of ventilation, whether it is known by the *Gazette* or not. The bees practice the fanning process here as well as in India.

Spiders in the Apiary.—Mrs. L. Harrison remarks as follows in the *Prairie Farmer* about her treatment of spiders in the apiary:

I used to make war on them. Sorry to own it, but I formerly killed every one that I could. Ugh! the great ugly things! How horrid! They might bite me. But I have repented in sackcloth and ashes. We have kissed and made up, and now we are the best of friends. I catch every one I can and carry it to a hive containing unoccupied combs and put it in. You see our good friend Father Langstroth ("may his shadow ne'er grow less") called our attention to the fact that the spiders keep all the moth-worms from combs. Where the mother spider has her home, the moths cannot flourish. I sometimes take their eggs encased in a downy web, and place them into a hive of unoccupied comb, to live and flourish.

We appreciate the following from the *American Apiculturist* for July, written by Mr. M. A. Kelley:

The AMERICAN BEE JOURNAL is certainly the "wheel-horse" of bee-journalism. The fraternity of bee-keepers surely have great reason to be proud of the noble band of men that have editorial control of our different bee-periodicals.

As one of that "noble army of martyrs," we make our politest bow.

What Next?—F. E. Merriman, of Massachusetts, has patented a "bridge" to enable bees to pass through the chaff or packing of a double storied hive—two strips nailed to cleats allowing space for a bee to pass constitutes this "bridge," which, like many another device, has been used by apiarists, in some form, of necessity for years.

Many Persons are naturally unfit for the bee-business, from carelessness and inaccuracy about their work. I know of no out-door pursuit where so much depends on the right thing being done at the right time, and in the right way. A willingness to work hard, and a determination to succeed, are characteristics of the prosperous bee-keeper.—G. M. DOOLITTLE.

Humbugs and Falsehoods, especially as relating to bee-keeping, are ever relentlessly pursued by the AMERICAN BEE JOURNAL. What the *Christian Woman* (a splendid periodical published in Philadelphia, Pa.) thinks of our efforts in the direction of hunting down lies about our pursuit, is told in the following graphic language:

The AMERICAN BEE JOURNAL is sharp, and swift in pursuit of humbug and falsehood. The newspaper sensational articles on manufactured honey, on glucose, and paraffine comb are proved to be purely imaginary; or evidences of reporters being hoaxed; but no matter, such reading makes people stare and wonder, and sells the newspapers. The average reader loves to be stunned by finding mare's-nests and mule's-colts. Print the most astounding statements about things, and particularly about prominent public personages, and especially particular about ministers, and discriminate severely upon Protestant clergymen, and never contradict them where proved to be falsehoods, and you have the popular and great daily!

Following the daily, the weekly paper culls the lies and the sensations, selecting the worst and most interesting slanders, and then the staid and permanent Encyclopedia embalms the corpse, and future essayists cite the statements as standard truths. But one thing is certain, that all who read the AMERICAN BEE JOURNAL will have their minds settled in regard to the "glucose and paraffine comb" story.

"If, therefore," says the JOURNAL, "you are extracting, beware of extracting too closely." The practice is bad in regard to honey, and worse respecting the papers.

Orange-Blossom Honey.—Many of the vile compounds found on grocers' shelves are labeled "Orange-Blossom Honey." This cognomen was invented to deceive. There is no such thing as pure orange-blossom honey—it is always mixed with something else. The *Rural Californian*, which can always be relied upon for true statements about honey, says:

At the time the orange trees are in bloom there is also a great variety of other tropical plants in blossom, and the bees gather from all these, not working exclusively on the honey. Honey stored at this season of the year is of very rich quality, and commands a high price. When quoted at low rates, it is *prima facie* evidence that it is not the genuine article.

At the Paris Exposition, English and American bee-keepers were far in advance of their German associates in the business; and America was far in advance of England—especially in the matter of apiarian literature. There were twenty American apiarists represented.—*Exchange*.

Honey Fruit-Cake.—One pint of honey, one pound of butter, 10 eggs, one tea-cup of sour-milk, one tea-spoonful of soda, 5 pounds of currants, 5 pounds of raisins, 3 pounds of citron, one table-spoonful of cinnamon, allspice and nutmeg, and 1½ pounds of flour.

Teasel Honey.—In New York this honey has a wonderful reputation. Bees usually gather a bountiful harvest from the teasels, and the honey is very light in color, and pleasant to the taste.

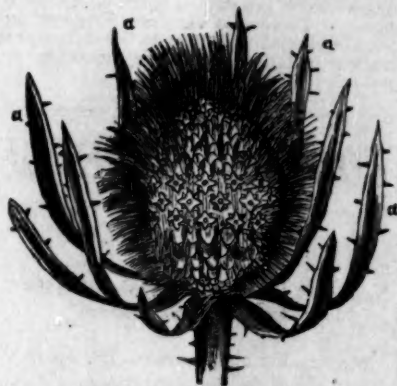
A correspondent asks for a description of the teasels, and how they are cultivated. This will be answered most fully by the following from an exchange:

The accompanying engraving fairly represents in shape and size the merchantable portion of the plant known as Fuller's teasel (*Dipsacus Fullonum*). It is used in woolen factories to raise a nap on cloth.

It is extensively grown in some parts of Onondaga county, N. Y.; also in Oregon, and possibly a few in Massachusetts and Connecticut. But three-fourths of all that is used in the United States are grown in and immediately around Skaneateles, N. Y.

The plant is biennial as a rule, but stunted plants sometimes survive five or more winters. The ground for their culture is prepared as early in the spring as possible; seed is sown in drills about three feet apart and lightly covered. The seed germinates slow, and the plant is about like a young clover plant when it comes up.

Careful hand hoeing and horse cultivating follows at sufficiently short intervals to



keep all grass and weeds in subjection. Of late, some of the best growers have planted a very thin crop of corn in the rows, leaving the stalks to hold the snow in winter, as two or three degrees below zero is sufficiently cold to kill a teasel plant if in no way protected.

The second year, during the month of May, they are cultivated, and soon after begin to throw up a centre stalk which grows very rapidly, reaching a height of four to six feet by July 15.

About this time the "king" (or head of the centre stalk) begins to blossom. It is a burr in all respects like our engraving, only a little larger. There is a blossom for every hook; they begin to open in the centre of the head first, blossoming toward the tip and base, ending at the base.

On each side of the main stalk, laterals shoot out (from four to one dozen) each one bearing a burr or head at each extremity; these are called mediums, on account of being less in size than the "kings," and larger than the buttons. "Buttons" are the smallest heads on the plant, and grow on side shoots from stalks bearing the mediums.

As above stated, the "kings" blossom first and in bloom about one week, by this time the most forward of the mediums begin, and later the buttons; in all, the plant is in bloom three to four weeks. The harvesting is begun when the blossoms have

fallen entirely off of about one-third of all the burrs.

The harvesters are supplied with gloves, small knife, and a large basket, into which to put the burrs as they are cut. As the blossoms fall, the field is gone over again, each time cutting all that are ready; the entire harvest consuming about twenty consecutive days.

They are carted from the field to barns and sheds, and spread on scaffolds to dry—no artificial heat is used. A free circulation of air is secured by opening the doors and windows.

As soon as dried they are ready for the middle man who cuts off the long, coarse spikes at the base, cuts the stem to an even length (three inches) and sorts them, making ten or more sizes; hand packs them in large cases, when they are ready to ship to the woolen manufacturer.

They are sold by weight, ten pounds being called one thousand. An acre of land will produce from 100,000 to 250,000, according to the strength of soil and care in cultivation. The honey-bee, too, gathers a bountiful harvest of the very best honey.

Antidote for Ants.—I tried several methods to prevent ants molesting bees, and found the following far the most satisfactory, writes Prof. A. J. Cook to the *New York Tribune*. By the use of a crowbar make a hole in the middle of, the ant-hill, down to the bottom, which is easily found by the more open or less compact earth. Then turn into this hole a gill of bisulphide of carbon, and fill and crowd down with earth. As the liquid is very volatile, and cannot pass out of the now compactly filled hole, it quickly evaporates and kills all the ants. If clay be near, always use this to crowd into the hole, as it is more impervious than is sand, though by firmly pressing with the foot the sand can be made to hold the liquid. Kerosene may be used instead of the carbon, but it is far less effective. So, too, of carbolic acid. By means of syrup, so covered by gauze that bees are excluded, the ants can be trapped in great numbers and destroyed. I have often done this, and by adding Paris green have poisoned the ants.

Killing Bees for their honey, or "brimstoning" them as it is now called, was unknown in the days of Aristotle, Varro, Columella and Pliny, and must have originated in the dark ages, when the human family had lost in apiarian pursuits, as well as other things, the skill of former ages. We are told that the old cultivators took only what their bees could spare, killing no colonies, except such as were diseased, or from any cause must die anyway.—*Exchange*.

The Citizen Soldier has the place of honor in "Frank Leslie's Popular Monthly" for September, the frontispiece of which is a fine equestrian portrait of Col. Appleton, Seventh Regiment, N. G. S. N. Y. There are, as usual, short stories, poems, literary and descriptive essays in abundance.

Nature in August.

Now Nature sits with folded hands,
As resting from the busy year,
While o'er the wide and teeming lands
She contemplates the goodly cheer
She gives; all energizing powers
Lie mute and still, and drowsy hours
Move noiselessly, their jocund moods
And songs foregoing; in deep woods
And fields a slumb'rous silence broods
Unbroken, save by beetle's drone
And o'erfed bees' dull monotone.

Or leaves' low rustle as they make
A pathway for the gliding snake.
The patient cows seek shadows cool,
That stretch themselves like giants prone
Along the edges of the pool—
And midst the waters stand knee-deep,
In dreamy, semi-conscious sleep.

Birds sing no more, but on the hill
The tender plaint of whip-poor-will,
Who, telling oft her woful tale,
Lingers full late after her time,
While at slow intervals the chime
Of sheep-bells in the distant vale
Falls on the ear like tuneful rhyme,
Lulling the senses, till in idle dreams,
We half forget the real in the thought of
that which seems.

—American Magazine.

QUERIES REPLIES.

Does the Golden-Rod Yield any Honey?

Written for the American Bee Journal

QUERY 726.—To what extent, if any, does the golden-rod yield honey in your bee-range?—Miltona.

None here (Illinois).—DADANT & SON.

Very little, if any (Iowa).—J. M. SHUCK.

It is very limited (Illinois).—MRS. L. HARRISON.

None, that I know of (Illinois).—J. M. HAMBAUGH.

Often very bountifully. It did last year. (Michigan).—A. J. COOK.

It yields a very little some years (Michigan).—R. L. TAYLOR.

It yields considerable very fine honey (Illinois).—C. H. DIBBERN.

It does the best it knows how, and that is nothing to "brag about," usually (Ohio).—A. R. MASON.

I do not count much on it, but I do not know positively (Illinois).—C. C. MILLER.

Not any that I have been able to discover. There is but little golden-rod here (New York).—G. M. DOOLITTLE.

One season, a few years ago, it yielded largely. Usually it yields not at all (Indiana).—M. MAHIN.

We have acres of it in bloom in early September, but I have never found it to yield much honey (Georgia).—J. P. H. BROWN.

Very largely. In fact, it is depended upon for fall and winter stores (Massachusetts).—J. E. POND.

What is known as golden-rod does not yield honey in this locality (Ohio), as I have never seen a bee working upon it yet. There is a variety of the *Solidago*, however, that does yield honey quite freely here the

latter part of August. I think that it is the *S. Serotina*. *Solidago Odora* is the name of the plant generally known as golden-rod. There are 48 varieties of the *Solidago* in this country, and it is probable that many of them yield honey.—G. L. TINKER.

About one year in three, golden-rod gives us quite a little surplus honey during the latter part of August (Michigan).—JAMES HEDDON.

I cannot say with any certainty. I have seen bees at work on it some seasons, and in others the bees left it entirely alone (Michigan).—H. D. CUTTING.

Golden-rod is "no good" in my locality (Kentucky). Pardon me when I say that I believe it is the poorest honey-plant in the world, when speaking in view of its reputation. Tradition sticks wonderfully tight to bee-culture, and golden-rod has a traditional fame, but no honey.—G. W. DEMAREE.

I consider the true golden-rod of no value in this locality (Iowa). After much inquiry and observation, I am forced to the conclusion that a good many men do not know golden-rod. Not a week ago I was talking with a bee-keeper who has 50 or more colonies; he said that golden-rod was a splendid honey-plant. Upon inquiry, I found he called the yellow-ray flowers, golden-rod.—EUGENE SECOR.

It should be remembered that there are many different varieties of golden-rod. These vary greatly as to their value for honey. These also vary in different seasons, and on different soils, so that a direct answer is impossible to the question propounded.—THE EDITOR.

CORRESPONDENCE.

HIVES.

Not all in the Kind of Hive—Improving Bees.

Written for the American Bee Journal
BY G. M. DOOLITTLE.

Many seem to think that large yields of honey are owing pretty much to the hive used, or at least seem to convey that idea, but this is not so. Hives have something to do with the yield of honey, of course, but nothing as compared with a thorough knowledge of the location we are in, and an understanding how to apply that knowledge so as to get the bees at the right time to secure the yield of honey when it comes.

Again, the manipulation of hives has more to do with our surplus crop than the hives themselves, for no matter how good the hive is, if the combs are never touched, or the surplus room put on in the right time, all may count for naught to the would-be bee-keeper, and the flowers will bloom in vain, as far as very much profit is concerned.

In order that none might have a mistaken idea in this matter, I have said in concluding several of my articles, that if any one could not spend

the time on bees that is required, he had better keep out of the business. I know of no hive with which a man can secure large results by simply folding his hands and letting the bees work. Such is not the economy of Nature, and in order to succeed in any calling in life, we must put energy, industry and perseverance into our work, if we would reap a harvest worth the gathering.

To work hard from 12 to 16 hours each day, at mere physical labor, is not all that is required, either, as many assert by their actions, if not by words; but there must be an energy and push, mentally, sufficient to grapple with all of the unsolved problems which are in the way of our success. If these are all combined, there is no reason why bee-keeping will not give as good results for what is expended upon it, as any other calling in life, even though it is not so supposed by the majority of the world.

I wish it understood that large yields of honey can only be secured where there are large numbers of bees in the hive at the right time, and securing such bees in time for the honey harvest is the great secret of success. That more bees can be obtained at the right time by the use of the Gallup frame, together with a proper manipulation of the same, is my belief, and is the only reason that I adopted that style of hive, for other hives give many good points not obtained in the Gallup, but none of which are really great enough, in my opinion, to make good their loss on this one point of preference that this hive gives.

However, I have done nearly as well with the Langstroth hive and frame, and did I have 40 or more colonies, on that style of frame, or in any of the many good hives of the present day, I should hesitate some time before I made a change, trying first to see if a thorough knowledge regarding their manipulation, and adapting this to my field, would not give success. If it should prove that the hive was not at all adapted to my locality, then, of course, I would make a change; but to change hives every time something new comes along, with the thought "that with this hive I shall succeed," is not the proper thing to do. "Prove all things, and hold fast to that which is good," is as trite a saying to-day as it ever was.

IMPROVING THE RACE OF BEES.

There probably is not an apiary in the United States containing 20 colonies, but what the owner thereof is compelled to acknowledge that certain colonies do better than others nearly every year in producing honey, as we often hear it remarked, "If the whole

apiary could have done as well as such a colony, I should have had a big yield."

Some contend that various things have *all* to do with it, but I am inclined to think that the race of bees has the greater influence over these things, and that certain traits of character exist in certain colonies to a greater extent than in others, making them more susceptible to our manipulation, etc., that brings about the different results. If this is true, there is a chance for improvement in our bees, and I am inclined to think that it will be more to our credit in the future to strive to improve on the bees which we have, rather than to continue importing stock.

But how can we accomplish this improvement? I know of but one way at present for the majority of us to accomplish this, and that is through the queen. Could we bring the drones into subjection, we might do better or get along faster, but as all efforts at controlling these have proven failures, we have only the queen to aid us as a certainty. Well, such being the case, how shall we proceed? I do not know that I can give my views better than to say that some years ago I adopted the following plan:

At the close of each honey season I struck an average of the number of pounds of surplus honey produced by the whole apiary, and then all colonies which did not come up to the average were marked. These colonies were united either in the fall or spring with others, which had produced an average amount, or above, if such uniting was deemed advisable, through colonies light in bees or scarcity of honey.

Of course I always destroyed the poorest queen and retained the other. If all were not disposed of in this way, I superseded the inferior queens by those reared from colonies known to have produced the very largest amount.

The above requires the keeping of a record of each and all colonies in the apiary, which is of benefit in several ways, beside the one here spoken of. Mr. Newman's "Apiary Register" is a nice thing for this purpose, and no apiary should be without one of these "Registers." All queens at all times are reared as far as possible from those producing the largest yields of honey, and in this way the apiary can be steadily improving as regards the honey-gathering qualities of the bees, instead of retrograding.

Borodino, N. Y.

Are you Going to the Fair? If so, will you kindly send to this office and get a few samples of the BEE JOURNAL, and give them out to your friends there, and get up a club! We will send them to you with pleasure.

DROUTH.

The Plants which are Less Affected by It.

Written for the Prairie Farmer
BY MRS. L. HARRISON.

Day after day the thermometer has been playing around one hundred in the shade, and one day it was one hundred and ten, accompanied by hot wind. I can now sympathize with Kansas. These hot winds bear away the last drop of life in leaf and twig. A large green ash growing near the honey-house, has shed almost all its leaves, drying green upon the tree, and then falling. Elms and lindens, my especial pets, have suffered severely, and part of them are now dead. If horticulturists could give hints how to preserve trees during such trying ordeals, it might do a world of good.

Judging from my own observations, I think that keeping the soil mellow around the trees during drouths of long continuance, is better than pouring water upon the hard soil under them, which only serves to bake it down harder.

In order to preserve the lives of two cherry trees, whose leaves were turning yellow, I mellowed the soil and then covered it with about a foot of leaves, which I keep in place by piling on brush, so that the wind or chickens may not remove them. I then gave them a liberal watering. If I had one pail of water to give to a tree every night for two weeks, I would prefer to give fourteen pailfuls at once, and should expect then that it might do good. One pailful at a time does more harm than good, if the soil is dry and hard. After a light shower is a good time to give a liberal watering.

Sunflowers, helianths, like the eagle with its eye on the sun, can face it all day without blushing, laugh at the heat, and like the old darkey, "think him mighty pleasant weather." I have been watching the sunflowers for years, in hopes to prove that it would do to tie to as a great honey-plant during dry weather, but have not been able, so far, to make it "pan out." Bees gather honey and pollen from it, but it yields sparingly.

One morning I was highly elated by seeing so many bees with tremendous loads of pollen on the face of a big Russian, but on taking a nearer view I found that they were not Italians, but some species of wild bees from the woods.

Cleome - integrifolia stands dry weather well, and has been blooming during the very hot weather; but bees work upon it only in early morning. It does not appear to yield as much

honey in this locality as its near relation, Cleome - Pungens, otherwise known as spider-plant. Prof. Cook, of Michigan Agricultural College, last year, grew Rocky Mountain bee-plant on a large scale, in order to find whether it would pay to raise it for honey alone, and it failed to fill the bill—the climate could not be furnished along with the seed.

Peoria, Ills.

BEE-DISEASE.

Salt is the Antidote for the "Nameless Bee-Disease."

Written for the American Bee Journal
BY JOSHUA BULL.

It appears, from what we read in the bee-papers from time to time, that the "nameless bee-disease" continues to be troublesome in various places, and that information is wanted concerning a remedy. Perhaps it may not be amiss for me to report my little experience with this strange disease; although not very extensive, yet the little experience which I have had therewith has been of such a nature that it has been very conclusive and convincing to me, at least, in the following points:

First, that the disease originates with the queen; second, that it is not contagious; and third, that common salt properly administered will effect a permanent cure.

In support of the foregoing conclusions, I offer the following facts:

In the summer of 1888 I obtained two queens from parties living several hundred miles distant, and I introduced those queens into good, healthy colonies. Previous to this time I had never noticed any signs of the "nameless disease" among my bees, neither did it appear in these colonies during the remainder of that season; they wintered on the summer stands, built up very strong in numbers in the early spring of 1889, but about the time of fruit-bloom they were both attacked with this disease, and began to dwindle very rapidly.

When their numbers were reduced about one-half, I commenced experimenting with one colony by sprinkling them with salt-water, which did not seem to do any good. I also dissolved about a table-spoonful of salt in a little water, and mixed it into one gallon of honey, and fed it to them as fast as they would take it; this seemed to arrest the progress of the disease somewhat, and when the brood began to hatch, which had been nursed with this salted honey, they began to recruit, and increase in numbers again.

The old diseased bees continued to die off until they were all gone, after which the colony became healthy, strong and vigorous, and have never shown any signs of disease since. The cure appears to have been complete and permanent.

The other diseased colony, which was not medicated with salt, all dwindled away and became extinct, queen and all.

Then, to demonstrate whether or not this disease is contagious, I put a healthy colony on the same combs in the same hive where the diseased colony had died, to see what the result would be; and they are to-day healthy and vigorous, and have never had any symptoms of disease, so far as I know, and the disease has not appeared in any other colony in my yard, except those two having the imported queens.

Without doubt it was the salt that effected the cure. The object in putting the salt into the honey, is in order to get the bees to feed it to the queen and the young larvæ.

If any one has bees affected with this disease, I hope that he will try feeding salt, and report the result in the AMERICAN BEE JOURNAL, for the benefit of the fraternity.

Seymour, Wis., Aug. 19, 1890.

INSTINCT—REASON.

Are Bees Guided by Instinct, or by Reason?

Written for the Australasian Bee Journal
BY T. J. MULVANY.

The question is frequently raised, when treating of the habits and actions of the inferior animals (more especially those of insects in general, and of bees in particular), whether those actions are guided by instinct only, or a certain degree of reasoning power; and the discussion is, as it appears to me, often carried on in a loose manner, and consequently ends without any satisfactory conclusion, owing to that prolific cause of irreconcilable difference of opinion—battling about words, the actual meaning of which we have not first taken some trouble to agree upon.

These remarks, which are commonplace enough, have been suggested at present by an article which appeared lately in a leading German newspaper (*Kölnische Zeitung*), which publishes occasionally essays of "Natural Science Gossip." The one to which I now refer is headed, "How do Bees and Insects of their Class Find their Way Home?" and as it may be of interest to the bee-keeping readers of this journal, I append a translation of that portion which refers more particularly

to the honey-bee, only offering these few observations by way of preface:

About the meaning of the word "instinct," there is perhaps little room for misunderstanding; it is pretty generally accepted as it is defined in a good dictionary to be "a certain power or disposition of mind by which, independent of all instruction or experience, and without deliberation, animals are unerringly directed to do spontaneously whatever is necessary for the preservation of the individual or the continuation of the kind."

This applies not only to inferior animals, but also to man, who is clearly gifted with instincts quite apart from his higher intellectual faculties. It is instinct which causes the newly-born babe, as well as the young of any of the inferior mammalia, to turn to its mother's breast for its first nourishment, and it is instinct which sets in operation the complicated system of nerves and muscles essential to the performance of the ordinary functions of walking, eating, drinking, etc. It is sometimes termed "a blind instinct," which is an inappropriate expression, meant, no doubt, to convey only that it acts without foresight or premeditation on the part of the individual, but which is liable to the misconception that the results are likely to be clumsy or uncertain as compared with those attained by the exercise of reason. The very reverse of this is, however, in reality the case. As the definition above quoted proceeds to say, "Instinct differs from intellect by the unerring certainty of the means it employs, the uniformity of its results, and the perfection of its works prior to and independent of all instruction or experience."

The word "reason" on the other hand, is one open to more diversity of meaning. It is used in different senses by philosophers, as well as by ordinary people, some taking it as almost synonymous with intelligence or with understanding, while others draw five distinctions between these terms, and define reason to be "the highest faculty of the human mind, by which man is distinguished from brutes, and which enables him to contemplate things spiritual as well as material."

In this sense Locke says, "Reason is natural revelation whereby the Eternal Father of Light and Fountain of all Knowledge communicates to mankind that portion of truth which He has laid within the reach of their natural faculties." Now, taken in this high sense, it would, of course, be a misapplication of the word to say that the inferior animals exercise their reason under any circumstances; but as regards the act of reasoning, one of its

admitted definitions is the power of "deducing inferences or conclusions from premises," and although no one will claim for the lower animals the exercise of his power in the way of abstract reasoning, there can be no doubt that they often do practically draw conclusions from facts presented to them by their senses, and act in what we may call a rational manner in accordance with those conclusions so as to enable them to effect some object which they have in view. It is surely unnecessary to specify instances.

Every lover of animals will know a variety of cases in which the dog, for instance, displays this power of observation, and of suiting his action to the exigencies of the case. We all know what a complete understanding can be established between him and his master; how he learns to comprehend, if not the actual words, at least the meaning of what is said to him; how he can, in fact, to use a common phrase, "Do everything but speak." We talk of the sagacity of the dog, of the elephant, and of other animals, and although some may define this word when applied to animals to mean only "quickness or acuteness of scent," I cannot look upon that definition as a logical one, or as correctly indicating the sense in which the word is actually used. The animals named, and many others, are capable of being taught, that is, of acting upon a knowledge gained by experience and education; and they therefore exercise a quality, call it what we will, which differs materially from the definition of instinct, and resembles much more that form of intelligence which in man is called "reason."

In the insect division of the animal kingdom the life of the individual is so short that no time can be allowed for the acquirement of experience, and it is here, accordingly, that the operation of instinct is most wonderfully apparent. What bee-keeper has not enjoyed the pleasure of seeing a queen-bee emerge from her cell, perfect and "fully armed," as Minerva is said to have sprung from the head of Jove, ready on the moment to take her allotted place in the hive, to fight a mortal combat with a rival queen, if any such should put in an appearance, to take in a few days her so-called wedding-flight, and then to settle down to her work of laying worker or drone eggs, the right sort in the right kind of cell, and ultimately to provide for her own successor by depositing eggs in the peculiar cells prepared by the worker-bees for that purpose; all this without the slightest preparatory teaching or experience, and all in the same manner as queen-bees have done since the world began, no better and

no worse than her progenitors did, perhaps millions of years ago?

[The bee is a much older inhabitant of the earth than man, its fossil remains having been found (at Olninger, Baden) in rocks of the tertiary formation, a geological period of unknown antiquity prior to the appearance of the human race.] But yet, in all her performances as well as in all those perhaps even more wonderful of the worker-bee, there is no want of an intelligent adaptation of means to the end in all the varying cases or circumstances that may arise.

It would perhaps be more correct to say that with insects, as with all the inferior animals, their actions are prompted or started instinctively, but are guided by a more or less developed intelligence, partaking, in some degree at least, of the quality which in man we call reason. The gradations of this quality within the range between what we may call the lowest and the highest of the inferior animals are vastly different, and somewhere between it and the higher reasoning power of man there is, no doubt, a gulf which no power of mere natural evolution can ever bridge across; but each class of animals has been gifted with that degree of intelligence which is suitable for his place in the great scheme of creation. All this is admirably put by Pope in the first part of his essay on "Man":

"Far as creation's ample range extends
The scale of sensual mental powers ascends,
Mark how it mounts to man's imperial race,
From the green myriads in the peopled grass.

How instinct varies in the grovelling swine
Compared, half-reasoning elephant, with thine!
Twixt that and reason what a nice barrier
For ever separate, yet forever near."

And again, in the third part of the same poem, with the verses beginning,

"Whether with reason or with instinct bless'd,
Know all enjoy that power which suits them best."

And concluding with the very striking lines,

"And reason raise o'er instinct as you can,
In this 'tis God directs, in that 'tis man."

Here Pope has hit the mark as to the great and characteristic difference between instinct and reason. However deservedly the latter is made to rank as a much higher form of mental development, surely the former must appear, to a reflective mind, by far the most wonderful, and therefore intensely interesting to trace in the actions of the lower animals. In it we can see most plainly the operation of that "Power and Divinity" which St. Paul says, "Since the creation of the world are clearly seen, being visible in the things that are made."

While watching the operations of the bee building its comb, or the

spider forming its web, are we not naturally led to feel with the Psalmist that it must indeed be an unwise man who "hath said in his heart, there is no God;" and must we not, while thus witnessing the working of that intelligence which we know cannot be attributed to the insect itself, realize with a solemn feeling that we are brought face to face, as it were, with that Divine Providence all whose attributes are infinite; in whose eye nothing that we can conceive of the vastness of the universe can appear large—nothing that the most powerful microscope discovers to our sense of vision can appear small—and to whom we in common with our humbler fellow-creature, the insect, are alike indebted for existence, and for whatever degree of intelligence, instinctive or reasoning, we are enabled to exercise?

PASTURAGE.

It Pays to Plant Sweet Clover for Honey.

Written for the Western Plowman
BY C. H. DIBBERN.

We would like to have some of the bee-keepers go with us to our sweet clover patch, at any time from daylight till dark, and watch the myriads of bees, busily darting from one cluster of bloom to another, and then claim that planting for honey does not pay! While it is a little difficult to determine just the quantity of honey the bees can gather from an acre of sweet clover, I know too much of the instinct and habits of bees, that all this wonderful activity is not for nothing.

I know that the four acres of this bloom is out of all proportion to the 160 colonies of bees we now have here, to say nothing of stranger bees that no doubt visit us. Had we 20 acres of this sweet clover, I feel sure we would now be doubling up our supers, and we would soon be able to offer our customers as fine an article of sweet clover honey as was ever produced. Where land is cheap, I see nothing that would pay better for bee-keepers, than a liberal number of acres in sweet clover; and what a grand plant it is for improving the fertility of poor clay hills and worn-out lands!

But your timid farmer is fearfully afraid that his lands will become seeded down with this "pest." Well, it does have staying qualities, and that is the best part of it. It is easily gotten rid of, however; just don't let it go to seed for a year or two, and the job is done. Some years ago we gave up a patch, containing about an acre, that had been in sweet clover for 5 or

6 years, and it was turned into pasture. It was a sight to see the cattle nipping the tender shoots as it came up in the spring, and all summer long they kept it close to the ground.

This was 3 years ago, and now you could go over the ground and never suspect that it was once covered with this "pest" higher than one's head, so thick that one could scarcely get through it. Land in our neighborhood sells from \$100 to \$1,000 per acre, and rents are correspondingly high, and yet I believe it pays me to have a few acres in this excellent bee-plant.

Now, would it not pay those bee-keepers, who have plenty of cheap lands, that would be greatly benefitted by it? Never mind about the seeds; that is all moonshine, and just remember that when you see an occasional stalk of this magnificent plant—showy, fragrant and useful—it has probably crowded out the jimson, burdock, or rag-weed. Yes, sir, it pays to plant for honey!

THE HONEY CROP OF 1890.

"What shall the harvest be?" Well, as far as our choice (white clover honey) is concerned, it will be a very slim one. From many letters received from all parts of the West, I conclude that not one-fourth of a crop will be secured. The only section that seems to be having a fine crop of honey, are the New England States. Well, honey ought to be honey this year, and bring a fair price. Perhaps the rains we are now having will give us a crop of fall honey. At any rate, we must do the best we can, even if we have to resort to the sugar-barrel, to provide stores to winter our bees. The good years will come again, if we but have patience to wait.

Milan, Ills.

CARNIOLANS.

How they are Regarded by an Eastern Aplarist.

Written for the American Bee Journal
BY E. L. PRATT.

My Carniolan bees have done nobly this season, both at swarming-time and in honey-gathering. By "swarming-time" I mean they have not swarmed to excess, as some writers try to impress upon the minds of all their readers.

If it were possible to furnish all pure stock to every man, the praise of this race of honey-bees would be long and loud. The Carniolans will make their way against all that is said in opposition to them. They are a noble race, possessing points, when fully de-

veloped, that will totally eclipse all other races of bees.

I am bending every effort to improve them, and each year I can see a marked advancement both in reproduction of traits and markings. The swarming argued so much against them, I am sure can be mastered; I have in my own yard several large colonies that have put in large amounts of honey, and have not thought of swarming. I have in hand several reports from other men where their Carniolans have refused to swarm at all this season—one covering three sections of the Heddon hive, and the queen keeping the combs filled with brood.

The colony which I use for queen-breeding, is the gentlest I have ever had, and although cramped for room all the season, they have refused to swarm. They are the greatest bees I ever saw for crowding into the supers, whether baited or not.

No, bee-keepers, I have no fear but that the Carniolans will make their mark in this country. I can see great possibilities for the race, and a marked advancement under careful breeding. A little time will tell the story. Soon we will be saying, as we do now about Italians—"There is no other race possessing so many desirable points, and so few undesirable ones."

"Purity" should be the watch-word, and I claim that the pure Carniolans should show no yellow. There is a type of Carniolans that, wherever lodged, make Carniolan-converts of the men who possess them, because of their beauty, gentleness, prolificness, and honey-gathering qualities.

Marlboro, Mass.

LARGE COLONIES.

Importance of Having Strong Colonies of Bees.

Written for the Country Gentleman.

The chief cause of failure in bee-keeping is the weakness of the colonies. The beginner starts with 10 colonies, when two are more than he can handle. They dwindle, but he coaxes them and waits, and at the close of the season, although his colonies are strong, yet he obtains no honey.

It is encouraging to have strong colonies in the fall. There is a better prospect of all-winter life, and more vigor in the spring. But we do not keep bees merely to make them strong for the winter campaign; we keep them to gather honey in the summer. They must be strong in the spring, and be kept strong through the summer.

The man who makes a business of bee-keeping—who wants honey and not increase of colonies—is continually reducing the number of colonies—provided, of course, that there are weak colonies, and there are always, in all apiaries, weak colonies, or colonies weaker than others. These are strengthened by uniting. Here are 3 colonies that lag behind. It is evident that they will only build themselves up during the summer. Each colony is united with a stronger one, or the 3 made into one, and are now ready to render some service.

A small farmer and gardener caught the "bee-fever," and bought "at a bargain" of a disgusted dabbler, 12 colonies of hybrids, set them up, admired them on Sundays, waited till fall, giving them no attention in the meanwhile, except to catch 4 runaway swarms, and then expected to reap a great harvest of honey.

Not a pound did he find. He and the members of his family, and some sympathizing neighbors, passed a unanimous vote that bees were humbugs and ingrates. For their occupancy of a beautiful garden, and for many fine words bestowed upon them, they had returned nothing except an occasional sting. They were abandoned as worthless.

In the spring following, only 7 colonies out of the 16 remained. The bee-keeper wished that none had escaped the winter. Convinced that they had no value, and tired of the sight of them, he decided to unite the 7 colonies, or what was left of them, and place them in a large dry-goods box, the presence of which suggested the idea. The bees were on American frames about a foot square, 9 in a hive. Out of the 7 colonies, or the 63 frames, he found enough—36—with brood, to cover the bottom of the box by placing them upright, shoulder to shoulder, having the space and frames of 4 colonies.

All queens except one were destroyed, and all the bees were united on these frames, after sprinkling them with sweetened water; inch auger holes were bored for an entrance, and they were left to die or to thrive. Late in June the farmer's attention was attracted by unusual activity around the dry-goods box. The bees were not swarming—only going and coming in streams. Opening the box, he saw an immense mass of bees. When the mats, which had been thrown carelessly over the frames to keep the bees down, were removed, the bees "boiled up" till the tops of the frames could not be seen.

The farmer had no faith in them, strong as they were, but if they wished to make up for their laziness in the

summer before, he would give them a chance, and he filled the space above the frames with one-pound sections and empty brood-frames. Some of the sections had combs made in the previous season, and all had combs or foundation. At the end of the season, the farmer had taken out of that dry-goods box 430 pounds of honey.

The bees did not swarm—or, if they did, it was when the farmer was not looking. The colony was equal to 4 large single colonies, and if they had remained single, or had been separated, it is safe to say that the 4 colonies would not have produced what the one large one did.

Bees are like other workmen—the greater the number at work on the same "job," the quicker will the job be finished.

Providence, R. I.

MINNESOTA.

The Bee-Season of 1890 and its Results.

Written for the American Bee Journal

BY S. D. HASKIN.

Last year opened favorably for honey, and as soon as the leaves were out, we saw that the bees worked largely on the leaves, particularly early and late in the day, and close inspection revealed the fact of the presence of innumerable multitudes of the aphides; and as vegetation advanced, the insects increased, with the ever-present ants to do the pumping, apparently.

"Well," says I, "this is something new, at least, to my 15 years' experience in bee-keeping in Minnesota;" I had sometimes remarked that Minnesota is never favored with the honeydew, so much talked of in some sections, and I observed it day by day, as the season advanced, and through the heat, or middle of the day, the bees worked more on the flowers, and in the evening and morning on the saccharine foliage-drip.

It was not confined to any locality, or class of timber, but on all foliage, even on shrubs and weeds, the insects as well as their product. Sections were filled and capped in June, but oh, my! what dark honey! But through basswood bloom they turned their attention to that, and gave us some white honey; after that the bees went more for red clover, golden-rod, asters, and fall flowers in general, although some colonies persisted in working on the foliage-drip in preference.

Then the wintering problem began to confront me, as the bodies of the hives were chock-full of the early-

gathered honey. I winter my bees on the summer stands. Last winter being mild, it gave several flights to the bees, and the snow was much bespattered up every time, but I lost only 2 colonies out of 68, in wintering, which left 66 in the spring, mostly in good condition, and made a fair start for a good season's work, with a great abundance of brood.

But I discovered that the bees were fast using their stores, and although there was abundance of bloom, the bees seemed to content themselves by staying at home and attending to the wants of their numerous families. There was no swarming until June, and then very cautiously; seldom any after-swarms, and they were returned, and nearly one-half of the spring count not swarming at all.

During May and June I gave my bees 500 pounds of honey, of last year's product, in frames, and on several occasions I opened the hives, but I could not see one bit of honey in them, and so I began to think of the wintering again, and it looked as though I should have to resort to feeding, as some will have to do in these parts, as it looks now.

But as July came, and basswood opened, and swarming ceased, they began to build up rapidly, and stopped expelling drones, which they had indulged in more or less all the season. The honey from the basswood was very thin, and the bees filled every available cell in the brood-chambers, so that the queens had to suspend operations until the honey was sufficiently evaporated to keep; it was then removed to sections, but leaving plenty in the brood-chambers for winter stores. This cleared the way again for the rearing of brood, which they are doing bravely, and just now they are zealously storing from buckwheat, which is thick, or heavy, and it is at once put into the sections.

So the hives are stocked with basswood honey for winter, and we will note the result. During the latter part of June, and the first of July, I felt, and said, though I should not get any surplus, that I would not only be satisfied, but very thankful if the bees stored enough for winter, but better than this, the prospect is that we may get perhaps one-fourth of a crop.

Waterville, Minn., Aug. 14, 1890.

Trial Subscribers.—In order to get as many as possible to read the AMERICAN BEE JOURNAL, we will take Trial Subscribers from the time the subscription is received until the end of 1890 for 25 cents each. Or for any one sending us \$1.00 for 1891, we will give the numbers for this year free from the time the subscription is received at this office—so the sooner they subscribe the more they will get for the money.

BEES' TEMPER.

Hints to Beginners About Management of Bees.

Written for the Iowa Homestead

BY W. M. BOMBERGER.

Pure Italian bees are the gentlest and most tractable. The common black bee generally has a bad temper. A cross between the two are often vicious and ugly. All things considered, the pure Italian is the best for the amateur, since the disposition and temper of bees are matters of education. It is always best to make the first purchase of bees from an expert, who has handled his bees properly, and who is conscientious enough to give the purchasing amateur, bees of an equable temper. Even in large apiaries there are colonies of bees that have bad tempers.

The first hive should be located in a half shady nook or corner in full view of a constantly used door, and quite near the house. It is surprising how quietly bees will do their work and not molest any one. Their nearness will gradually accustom one to them. They should be fenced, if very small children are on the premises.

A colony of bees, made vicious by improper methods of handling and inhuman treatment is bad, if not worse, than a hornet's nest. Treat bees as you would your best friends. Walk to the hive leisurely with a veil over the face, and a smoker lit and in good trim. Take a location when working over them, so you will not be in the way of bees darting in and out of the hive. With a chisel or hatchet, pry apart, or open such parts of the hive as is necessary in the work, without snapping and jarring parts waxed together. Work with them only on hot, sunshiny days, between 11 and 2 o'clock, when the waxed parts of the hive will give without jar or snapping.

Without discussing the duties of various classes of bees in a hive, it is sufficient to say here that when opening a hive, a certain quantity of bees at the part opened take it on themselves to act as defenders, and drop all other duties. They walk about nervously, quiver their wings, and, if given sufficient cause, dart at the operator and make it decidedly interesting for him.

An expert can manage them without smoking, but an amateur should use smoke. Puff smoke gently in the opening, and, stupefied and scared, the bees will retreat back in the hive and fill themselves with honey, when they become practically harmless; but if it takes time for the operator to make his manipulations, and other

bees are disposed to get nervous, give them more smoke. If a few bees (fighters) buzz angrily around your head, walk carefully away from the hive and kill them with a shingle. A few cross bees flying and pestering an operator, can, by their noise and the smell of the venom from attempting to sting clothing, raise the anger of a whole colony or apiary.

If bees do sting and make a person retreat, it is best not to strike with the arms and hands, but run in a direction away from the house, in a straight line, and suddenly make half-circles around trees or brush, making sharp angles in different directions behind them.

Never work with bees when there is an impending storm in the sky, or during a drouth, or when they are idle and the honey-flow is slack. During the height or the active beginning of breeding, in fruit-bloom, their busiest work on white clover, linden, buckwheat and fall flowers, is the proper time to handle and work bees. All work, as near as it can possibly be done, should be put off until then. Such times can be told by the condition of the bloom, and the way the bees themselves behave. In the evening, at such times, there is a loud and grateful hum that bespeaks on their part satisfaction, contentment and happiness. This hum is the sweetest music to the bee-keeper's ear, and we consider it the rarest pleasure to sit on a hive during twilight, and listen to it.

Harlan, Iowa.

FOUL BROOD.

One Method of Treating this Dreadful Bee-Scourge.

Written for the Pacific Rural Press

BY E. H. SCHAEFFLE.

This disease, which is only equaled by the glanders in the horse, in its fatality, has been the cause of a great deal of controversy among the most celebrated of apiarists. The germ theory, which supposes the cause of epidemics and contagious diseases to be due to the agency of specific small germs, and is backed by Professors Pasteur, Tyndall and others, is generally accepted as the true solution of foul brood. Since these scientific microscopists agree that bacillus is the cause of foul brood, and as the germs or spores exist in every part of the hive, pollen, cells, wax, and all the wood-work of the hive, and Prof. Tyndall has proven that 230° F. heat maintained for a quarter of an hour, failed to kill them, the method most generally adapted for the stamping out of the disease, consists in the entire de-

struction by fire of the entire hive with all its contents of frames, comb, and bees. This heroic treatment would, in many cases, bankrupt the apiarist; and while, in most cases, it would effect the best results, we must look to some more humane and less destructive method. Mr. Chas. F. Muth has, in all probability, come nearer a solution of the difficulty than any other one man, and from his excellent article on "Foul Brood," I condense the following:

"It is gratifying to observe the growing attention paid by bee-keepers to the dangers of the spread of foul brood. Utah has a bee-inspector in every county, and a State officer drawing pay from the State. It would be but a move in the right direction if all the States were to follow the example of our Mormon brethren.

"An abundance of forest trees afford homes for absconding swarms favoring the spread of the disease. Once a number of bee-trees become infected, every bee running over these devastated combs, for years after the death of the colony, is liable to take home to its own hive the germs of the disease. Therefore, be on your guard. The disease is imparted and spreads by contagious spores. It is of vegetable growth, a fungus. Little specks, hardly discernible to the naked eye, are carried along on the legs of bees running over infected combs. Whenever one of these spores drops into a cell containing a larva, the larva dies—soon changing to a brown putrid mass, and foul brood begins its work. Larvæ are affected and die just before the cells are capped, or while bees are performing their usual labor of capping. These cells, a few weeks afterward, are perforated near the center, and easily recognized as disease. Larvæ in uncapped cells, when killed by this disease, settle into the lower corner as a ropish substance, and in time dry up in a hard, coffee-colored mass.

"Bees running over these cells carry the micrococci to a large number of other cells. The putrid stench in the hive becomes so strong that the bees oft-times swarm in despair, taking with them the curse of foul brood. The old bees are not affected, but the young bees being killed off, it soon decimates a colony. Micrococcus dropped into an empty cell will lie dormant for years, and when the queen deposits an egg in these cells, the trouble begins. A crevice in a bottom-board that had been exposed to the weather for a year, being used, the bees running over it, dragged the germ of foul brood into the hive with them.

"To Dr. Schoenfeld is due the credit of discerning the true nature of foul

brood and its destroyer, while Emil Hilbert found the proper proportions. Mr. Hilbert applies the remedy—salicylic acid—by means of an atomizer, subjecting every bee, comb and cell to the spray, as well as every frame, inside of hive and adjoining surroundings. Several thorough treatments effected a cure. The objection to this method is that bees from other hives carry the spores home with them, thus keeping the disease alive. Mr. Hilbert, however, treats his diseased hives in a closed room.

"After repeated failures, and having destroyed a number of colonies, I tried the following method: I brushed the diseased bees on 10 frames of comb foundation; these I placed in a clean hive, and placed them over a jar of food. The old combs and frames were burned up. This feed was continued until the bees had built out and filled up the combs with brood and honey. Other colonies were treated in the same manner, and all became healthy colonies. All did finely, and there was no more foul brood. I fed these bees, honey with about 25 per cent. of water added, and to every quart of food, an ounce of the following mixture:

Salicylic acid.....16 grains.
Soda borax.....16 grains.
Water.....1 ounce.

"Bees being without food eat it readily. When an atomizer is used on the combs, the medicine should be only one-half as strong. By this method, foul brood can be eradicated without any loss, save that of the old combs and frames."

□ I have given the method in detail, as it is none too long, and leaves but little to be desired. I would suggest that all of the frames and the inside of the new hive into which the bees are transferred, be sprayed first. The English method consists in washing the hive of the diseased bees in a solution of carbolic acid:

Acid carbolic (Calvert's No. 5) ...3 ounces.
Glycerine3 ounces.
Mix and add hot water1 quart.

The best plan would be to place the bees to be treated in a hive free from diseases, and burn all of the diseased hives.

Too much care cannot be exercised in the purchase of queens, as those from infected districts are apt to carry the disease with them.

Murphys, Calif.

A Nice Pocket Dictionary will be given as a premium for only **one new** subscriber to this JOURNAL, with \$1.00. It is a splendid little Dictionary—just the right size for the pocket. Every school boy and school girl, as well as everybody else, should own and use it. Price, **25 cents**.

CONVENTION DIRECTORY.

1890. Time and place of meeting.

Aug. 29.—Haldimand, at South Cayuga, Ont.
E. C. Campbell, Sec., Cayuga, Ont.
Sept. 10.—Nebraska State, at Lincoln, Nebr.
J. N. Heaster, Sec., Columbus, Nebr.
Sept. 10.—Ionia County, at Ionia, Mich.
H. Smith, Sec., Ionia, Mich.
Sept. 13.—Susquehanna Co., at Springville, Pa.
H. M. Seeley, Sec., Harford, Pa.
Oct. 8.—S. W. Wisconsin, at Platteville, Wis.
B. Rice, Sec., Boscobel, Wis.
Oct. 15.—Central Michigan, at Lansing, Mich.
W. A. Barnes, Sec., Lansing, Mich.
Oct. 29-31.—International American, at Keokuk, Ia.
C. P. Dadant, Sec., Hamilton, Ill.

In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

International Bee-Association.

PRESIDENT—Hon. R. L. Taylor, Lapeer, Mich.
SECRETARY—C. P. Dadant, Hamilton, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon, Dowagiac, Mich.
SEC'Y. AND MANAGER—T. G. Newman, Chicago

SELECTIONS FROM OUR LETTER BOX

Pond-Lilies and Wild-Rice.

Will some one who lives close to pond-lilies and wild-rice, that grow in marshes, tell me if they, or either, secrete much honey, and the quality—whether it will pay to move bees where either abounds in large quantities?
C. REYNOLDS.
Fremont, Ohio.

Poorest Season for 35 Years.

This has been the poorest season for bees that we have had in Eastern Ohio since I have kept bees, which is 35 years. I have 36 colonies, and use the Falcon chaff hive. I examined my bees to-day, and am satisfied that they have not 50 pounds of sealed honey per colony in the sections. My customers are asking me for honey every time they see me. I am keeping bees for pleasure, but I think that the pleasure would be much greater if I had a ton or two of honey to sell, instead of 200 or 300 pounds. I winter my bees on the summer stands.

SAMUEL HOLIBAUGH.

Marlboro, O., Aug. 18, 1890.

Spacing the Brood-Combs.

About May 1, 1890, I found a colony just as I had fixed it to put the boxes on the year before. I often put the swarm on 8 frames, and a division-board each side in a 10-frame hive. A thin strip $\frac{1}{4}$ x 1 inch is placed on the ends of the frames, and the boxes put on; so when I find a hive in this condition, I know that I have not lifted a frame after the boxes were put on last year. This old hive is fully 16 inches across the brood-frames, and these division-boards are thin—less than $\frac{1}{4}$ of an inch thick. The reader can see here wide spacing, or else room enough for another brood-frame, or else another board. The fact is, the colony did a splendid job last year. No time was wasted on waste comb, or extra gluing up of every thing. It so happened that I went to another hive of a very

different kind; the smoker had to be in full blast, the frames were solid with burr-combs, the division-boards were $1\frac{1}{4}$ -inches thick, and the hive $14\frac{1}{2}$ inches across the frames. In the discussion of burr-combs one important factor has been entirely left out, and that is, the supreme meanness of some bees. Breed this out of the bees, and space the frames as given on page 398, by Mr. Faylor, and the subject of burr-combs can be put down as settled.

JOHN A. KING.

Mankato, Minn., Aug. 15, 1890.

Poor Season for Bees.

This has been the poorest year for bees that there has been since I began bee-keeping. Ten strong colonies worked for extracted honey gave me only 140 pounds and one swarm. They are all strong and in good condition for winter. The increase from 22 colonies in the spring was 5 colonies.

H. M. SEELEY.

Harford, Pa., Aug. 18, 1890.

Results of the Season so Far.

I have been working 84 colonies this season in four different places. I have 35 of my own at home, and worked nearly all for extracted honey; the average per colony being 28 pounds—a very light average. Our bees got such a hard blast in May, that I could not get them strong enough by the time our main honey-flow came—clover. We look for no more surplus honey after it is gone. We get a flow late in the fall from aster, which puts them in good condition for winter. The honey we have is very fine, and there is a good demand for it, at 10 cents per pound at home; and soon all will be sold.

J. G. CREIGHTON.

Preston, O., Aug. 21, 1890.

Bee-Keeping in Nebraska.

Please tell me were the next Nebraska State Bee-Keepers' Convention is to be held. Bees here are gathering but little honey now. It was very dry until a few days ago. We do not expect much surplus honey here. I have 30 colonies of bees, most of them in good condition for the honey-flow, if there is any.

F. C. WHITE.

Farmer's Valley, Nebr., Aug. 13, 1890.

□ [See the "Convention Notices" on page 589.—Ed.]

Wet Weather and Drouth.

The honey crop in this section of the country has been a failure, on account of wet weather in the spring, and the late drouth. Bees have stored but little honey. I am now feeding some of the weak colonies, and unless the fall crop turns out better than expected, I shall probably have to feed all the honey I have.

W. H. KIMBALL.

Davenport, Iowa, Aug. 18, 1890.

Moving Bees to a New Pasture.

I have just shipped a carload of bees to Onawa, Monona county, Iowa, for better pasturage. I hardly know how I will come out yet, but I will report if not too far behind, as I went into this on rather a "wild-goose chase." We have had a severe drouth, so much so that wells, water-works, and everything is dried up; but we expect it is broken now, as we have had some rains for the last two weeks, and the earth is now beginning to look a little green.

Clover undoubtedly is killed out, to a large extent. If the showers continue, perhaps we will save half of our usual crop. The honey is not two per cent. in this county. The fall crop cannot possibly be very much.

J. W. BITTENBENDER.

Knoxville, Iowa, Aug. 19, 1890.

HONEY AND BEESWAX MARKET.

CHICAGO, Aug. 16.—Comb honey is held very firmly this week, and the prices for white in pound sections range from 14@15c, and some fancy at 16c, but the bulk of the sales are at 15c. Demand is quite good, and more could be sold than is coming. Extracted, 6@8c; there are free offerings of California at 6@7c. R. A. BURNETT, 161 S. Water St.

NEW YORK, Aug. 11.—We quote Southern extracted at 65@70c per gallon; orange blossom, 7@7½c per pound; California, 6@7c. No new comb arrived as yet. Beeswax, dull at 27c, and a further decline is expected.

HILDRETH BROS. & SEGELKEN,

28-30 West Broadway.

KANSAS CITY, Aug. 22.—Receipts of comb honey are light, and demand good, at 14@15c for white 1-lbs. No 2-lbs. or dark comb in the market. Very little demand for extracted at present; white, 6½@7c; dark, 5@6c. No beeswax in market.

CLEMONS, MASON & CO.,

Cor. 4th and Walnut Sts.

CHICAGO, Aug. 21.—New honey arriving very slowly, demand active, and all receipts are taken promptly. We quote: White clover 1-lbs., 16@18c; 2-lbs., 14@15c; dark 1-lbs., 11@12c; 2-lbs., 9@10c. Extracted meets with quick sale, values ranging from 6½@7½c, depending upon quality and style of package. Beeswax, 28@30c.

S. T. FISH & CO., 189 S. Water St.

KANSAS CITY, August 6.—Demand is good for the new crop, and receipts are very light. White 1-lbs., 15c; 2-lbs., 13@14c. Dark 1-lbs., 12@13c; 2-lbs., 12c. Extracted, white, 7c; dark, 5@6c.

HAMBLIN & BEARSS, 514 Walnut St.

DETROIT, Aug. 12.—Very little new comb honey in the market, and it is selling at 14@15c. Extracted, 7@8c. Beeswax, 26@27c.

M. H. HUNT, Bell Branch, Mich.

DENVER, Aug. 7.—Old honey all gone. New crop is arriving freely. Prospect good for a fall crop. We quote: 1-lbs., 14@16c. Extracted, 6@8c. Beeswax, 20@25c.

J. M. CLARK COM. CO., 1517 Blake St.

BOSTON, Aug. 15.—New honey is coming in and we are selling at 18c. Extracted, 7@8c. Beeswax, 30c for fancy yellow.

BLAKE & RIPLEY, 57 Chatham Street.

CINCINNATI, Aug. 12.—Good demand for comb and extracted honey. Arrivals are insufficient for the demand. We quote best white comb at 14@16c. Extracted at 5@8c. Beeswax is in fair demand at 24@26c on arrival for good to choice yellow.

C. F. MUTH & SON,

Corner Freeman & Central Aves.

Globe Bee-Veils.—Here are two letters received—from two of our correspondents, and are about like scores of others, showing how the Globe Veils suit those who have them. Not one objection has ever yet been received:

Send me two more Globe Bee-Veils for my neighbors. I like mine very much.—J. B. DUNLAP, Rochester, Ind., July 17, 1890.

The two Globe Bee-Veils came by return mail. Thanks for promptness. I find them just as neat and clean as new (the soiling is so slight). They are indeed *sure* protection against bee-stings, mosquitoes, etc.—JOHN HAGER, JR., Arabi, La., July 16, 1890.



ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

☞ Subscribers who do not receive their papers promptly, should notify us at once.

☞ Send us *one new* subscription, with \$1.00, and we will present you with a nice Pocket Dictionary.

☞ Red Labels are nice for Pails which hold from 1 to 10 lbs. of honey. Price \$1.00 per hundred, with name and address printed. Sample free.

☞ Calvert's No. 1 Phenol, mentioned in Cheshire's Pamphlet on pages 16 and 17, as a cure for foul brood, can be procured at this office at 25 cents per ounce, by express.

☞ Send us *two new* subscriptions, with \$2.00, and we will present you with a "Globe" Bee-Veil for your trouble. (See the fuller notice in the advertising columns.)

☞ The date on the wrapper-label of this paper indicates the end of the month to which you have paid. If that is past, please send us a dollar to advance that date another year.

☞ Please send us the names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you.

☞ Any of the Political Dollar Weekly Newspapers will be clubbed with our JOURNAL at \$1.85 for the two; or with both our HOME JOURNAL and BEE JOURNAL for \$2.25 for all three papers.

☞ As there is another firm of "Newman & Son" in this city, our letters sometimes get mixed. Please write *American Bee Journal* on the corner of your envelopes to save confusion and delay.

☞ Systematic work in the Apiary will pay. Use the Apiary Register. Its cost is trifling. Prices:

For 50 colonies (120 pages)	\$1 00
" 100 colonies (220 pages)	1 25
" 200 colonies (420 pages)	1 50

☞ When talking about Bees to your friend or neighbor, you will oblige us by commending the BEE JOURNAL to him, and taking his subscription to send with your renewal. For this work we will present you with a copy of the Convention Hand Book by mail, postpaid. It sells at 50 cents.

☞ A "Binder" made especially for the AMERICAN BEE JOURNAL, and lettered in gold, makes a very convenient way of preserving the copies of the BEE JOURNAL as fast as they are received. We offer it, postpaid, for 60 cents; or as a premium for *two new* subscriptions, with \$2.00. It cannot be mailed to Canada.

A New Method of Treating Disease.

HOSPITAL REMEDIES.

What are they! There is a new departure in the treatment of disease. It consists in the collection of the specifics used by noted specialists of Europe and America, and bringing them within the reach of all. For instance, the treatment pursued by special physicians who treat indigestion, stomach and liver troubles only, was obtained and prepared. The treatment of other physicians, celebrated for curing catarrh, was procured, and so on till these incomparable cures now include disease of the lungs, kidneys, female weakness, rheumatism and nervous debility.

This new method of "one remedy for one disease" must appeal to the common-sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, has ruined more stomachs than alcohol. A circular describing these new remedies is sent free on receipt of stamp to pay postage, by Hospital Remedy Company, Toronto, Canada, sole proprietors.

51D26t 1mly.

Convention Notices.

☞ The Northern Illinois Bee-Keepers' Association, will hold its fall meeting at Harlem, Ill., on Aug. 19, 1890. D. A. FULLER, Sec.

☞ The Southwestern Wisconsin Bee-Keepers' Society, will meet on Oct. 8, 1890, at the residence of E. France, Platteville, Wis. B. RICE, Sec.

☞ The Cortland Union Bee-Keepers' Association, will hold their Annual Basket Picnic at the Floral Trout Park, in Cortland, N. Y., Tuesday, Aug. 19, 1890. Essays will be in order. All come. M. H. FAIRBANKS, Sec.

☞ The fall meeting of the Central Michigan Bee-Keepers' Association, will meet in the Pioneer Rooms, Capitol Building, Lansing, Mich., on Wednesday, Oct. 15, 1890, to commence at 10 a.m. W. A. BARNES, Sec.

☞ The Susquehanna County Bee-Keepers' Association, will meet at Springville, Pa., on Saturday, Sept. 13, 1890, at 10 a.m. All are invited to attend. I would request every one in the county, who has one or more colonies, to send me their report for the season—number of colonies in the spring, number of increase, pounds of comb honey, of extracted—and of beeswax. H. M. SKELEY, Sec., Harford, Pa.

☞ The Nebraska State Bee-Keepers' Association will meet in convention in the Bee and Honey Hall, State Fair Grounds, at Lincoln, Nebr., on Wednesday evening, September 10, 1890. Mr. E. Whitcomb, Superintendent of the Bee and Honey Department of the State Fair, will be on hand the entire week of the Fair. He especially desires that every bee-keeper shall make this department his headquarters. Any honey, or appliances in its production, sent in his care, charges paid, will be properly placed on exhibition. J. N. HEATER, Sec.

Chapman Honey-Plant Seed.

This plant has been commended by some of the most experienced bee-keepers in America, as being "a most valuable acquisition to the list of bee-forage plants." The seed may be scattered in waste places, or it may be sown in drills or hills like onion seed. We can furnish the seed, post-paid, at the following prices: Single ounce, 40 cents; 4 ounces, \$1.00; 10 ounces, \$2.00; or one pound for \$3.00.

Send us the Names and addresses of any of your friends upon whom you desire to call, to get their subscriptions, and we will immediately send them each a sample copy. In this way you can readily get them for a club.

CLUBBING LIST.

We Club the American Bee Journal for a year, with any of the following papers or books, at the prices quoted in the LAST column. The regular price of both is given in the first column. One year's subscription for the American Bee Journal must be sent with each order for another paper or book:

	Price of both.	Club.
The American Bee Journal.....	\$1 00....	
and Gleanings in Bee-Culture.....	2 00....	1 75
Bee-Keepers' Guide.....	1 50....	1 40
Bee-Keepers' Review.....	1 50....	1 40
The Apiculturist.....	1 75....	1 65
Bee-Keepers' Advance.....	1 50....	1 40
Canadian Bee Journal.....	2 00....	1 80
The 7 above-named papers.....	5 25....	5 00
and Langstroth Revised (Dadant).....	3 00....	2 75
Cook's Manual (1887 edition).....	2 25....	2 00
Quinby's New Bee-Keeping.....	2 50....	2 25
Doolittle on Queen-Rearing.....	2 00....	1 75
Bees and Honey (Newman).....	2 00....	1 75
Binder for Am. Bee Journal.....	1 80....	1 50
Dzierzon's Bee-Book (cloth).....	3 00....	2 00
Root's A B C of Bee-Culture.....	2 25....	2 10
Farmer's Account Book.....	4 00....	2 20
Western World Guide.....	1 50....	1 30
Heddon's book, "Success,".....	1 50....	1 40
A Year Among the Bees.....	1 50....	1 35
Convention Hand-Book.....	1 50....	1 30
Weekly Inter-Ocean.....	2 00....	1 75
Toronto Globe (weekly).....	2 00....	1 70
History of National Society.....	1 50....	1 25
American Poultry Journal.....	2 25....	1 50
The Lever (Temperance).....	2 00....	1 75

Do not send to us for sample copies of any other papers. Send for such to the publishers of the papers you want.

Bee-Keeping for Profit, by Dr. G. L. Tinker, is a new 50-page pamphlet, which details fully the author's new system of bee-management in producing comb and extracted honey, and the construction of the hive best adapted to it—his "Nonpareil." The book can be had at this office for 25 cents.

We club the ILLUSTRATED HOME JOURNAL (price 50 cts.) with the AMERICAN BEE JOURNAL for one year for only \$1.35. You cannot afford to do without either—the one as an aid to practical bee-keeping, and the other as an invaluable literary and home periodical for the whole family.

Handling Bees.—This is the title of a nice pamphlet containing 28 pages and a cover, published by Chas. Dadant & Son. It is a chapter from their book, Langstroth Revised, and is an excellent thing for beginners. Price, 8 cts. For sale at this office.

Clubs of 5 for \$4.00 to any addresses. Ten for \$7.50, if all are sent at one time.

Advertisements.

Voice of Masonry & Family Magazine.

Three years a Paper and twenty-five a Magazine. Now unexcelled. Contains fine Portraits and Illustrations, and a great variety of articles, stories and poems for Freemasons and their families; also Eastern Star, Masonic Gleanings and Editorial Departments. Price per year, \$3.00. JOHN W. BROWN, Editor and Publisher, 182 & 184 S. Clark Street, Chicago, Illinois.

FOR SALE!

An Established Supply Business.

HAS been running since 1869. Present owner is compelled to give it up. Stock so reduced that \$500 will buy what is necessary to the trade. Capital required, from one to ten thousand. Will invoice with reasonable discount, and no charge for the business. The shop and buildings, together with 20 acres of land, can be leased for a term of years. If not sold before Sept. 16, will auction off at that date. Location convenient to both depots.

Terms Cash, or satisfactory security, on time. Have a T-Tin Machine—capacity, 500 complete Tins in an hour; a Given Press, horse power, Saws, Sheetmetal outfit, etc., and 50 colonies of Italian Bees. Will quote prices or receive bids on whole or part, by mail.

G. M. TERRELL, Jerseyville, Illinois.
(Successor to E. S. Armstrong.)

35A2t

Mention the American Bee Journal.

The Honey Almanac

JUST the thing needed to create a demand for HONEY at home. Bee-keepers should scatter it freely. It shows the uses of Honey for Medicine, Eating, Drinking, Cooking, for making Cosmetics, Vinegar, etc.; also uses of BEESWAX. Price, 5 cts.; 25 copies for \$1.10; 50 copies, \$1.70; 75 copies, \$2.30; 100 for \$2.90. The foregoing are POSTPAID prices; following are prices when sent by express or freight: 100 for \$2.50; 500 for \$10.00; 1,000 for \$15.00. The Bee-keeper's CARD will be printed on the first page without extra cost, when 25 or more are ordered at one time. Address,

THOS. G. NEWMAN & SON,

246 East Madison St., CHICAGO, ILL.

\$3.00 WILL BUY.

I will close out my Apiary of over 100 Colonies of Bees in fine condition, at \$3 per Colony—good Colonies, good Hives, with enough honey to winter on. Address,

34A4t

J. A. KING, Mankato, Minn.

Mention the American Bee Journal.

The Lever.

THE NATIONAL
- - TEMPERANCE NEWSPAPER.

Bright! Newsy! and Entertaining!

YOU SHOULD READ IT.

Send for Sample Copy.

To New Subscribers, Only 50c a Year.

This offer closes November 1.

Center-Lever Company,

134 Van Buren Street, CHICAGO, ILL.
13A4t-4M4t

BEESWAX WANTED.

Beeswax.—We will pay 24 cents per pound, in Cash, for Yellow Beeswax, delivered here.

To avoid mistakes, the name of the shipper should always be on each package.

THOS. G. NEWMAN & SON,

246 East Madison Street, CHICAGO, ILL.

American Carniolans. From two finest niles—one swarmed this season. Very gentle, good honey-gatherers. Dry weather disposed of drones near me. Select Untested Queens, \$1.00. Safe arrival guaranteed.

32A4t

E. F. QUIGLEY, Unionville, Mo.

Mention the American Bee Journal.

Tin Pails for Honey.

THESE Pails have full covers, and are excellent for selling Honey in the Home Market; and after the Honey granulates in them, it can be shipped anywhere with perfect safety. All sizes have a bail, or handle, and when empty are useful in every household.



The engraving shows STRAIGHT TIN PAILS, of which there are 3 sizes, holding respectively 3, 5 and 10 lbs. of Honey. Assorted Samples of the 3 sizes will be sent by express for 40 cts. In quantities, the prices are:

	Per doz.	Per 100
Gallon...holds 10 lbs....	\$1.80	\$12.00
3/4-Gallon, holds 5 lbs....	1.50	9.00
Quart, holds 3 lbs.....	1.20	7.00

The second engraving represents THE TAPERING TIN PAILS—made heavier and stronger than those with straight sides. The covers are deeper, and the top-edge of the Pail is doubled over, making it smooth and convenient to handle. Of the Tapering Pails there are five sizes, viz: 1-lb., 4-lb., 7-lb., 13-lb., and 25-lb. Assorted Samples of these will be shipped by express for 75 cents. In quantities, the prices are as follows:

	1-lb.	4-lbs.	7-lbs.	13-lbs.	25-lbs.
Per dozen, \$ 75....	\$1.25	\$ 1.50	\$ 2.00	\$ 3.25	\$ 3.25
Per 100, 500....	8.00	10.00	14.50	23.00	23.00

THOS. G. NEWMAN & SON,

246 East Madison Street, - CHICAGO, ILL.

British Bee Journal

AND BEE-KEEPERS' ADVISER,

Is published every week, at 6s. 6d. per annum. It contains the very best practical information for the apiarist. It is edited by Thomas Wm. Cowan, F.G.S., F.R.M.S., etc., and published by John Huckle, King's Langley, Herts, England.

Bee-Hives, Sections, &c.

On and after Feb. 1, 1890, we will sell our No. 1 V-groove Sections in lots of 500 as follows: Less than 2,000 at \$3.50 per thousand; 2,000 to 5,000 at \$3.00 per thousand. Write for special prices on larger quantities. No. 2 Sections \$2.00 per thousand. Send for Price-List for other Supplies. Address,

J. STAUFFER & SONS,

(Successors to B. J. Miller & Co.)

31Atf NAPPANEE, IND.

PATENT WIRED COMB FOUNDATION

HAS NO SAG IN BROOD FRAMES.

THIN FLAT BOTTOM FOUNDATION

Has no Fish-bone in Surplus Honey.



Being the cleanest is usually worked the quickest of any Foundation made.

J. VAN DEUSEN & SONS,

Sole Manufacturers, Sprout Brook, Montgomery Co., N. Y.

1Atf

Italian Queens by Return Mail

Tested, \$1.00 each.

Untested, 60 cts. each, or four for \$2.00.

34Atf GOOD BROS., NAPPANEE, IND.

Mention the American Bee Journal.

Choicest Italian QUEENS! Purely BRED—Purely MATED. Won first premium over all competitors at Buffalo International, September, 1889. NONE BETTER IN AMERICA! Send for Price-List. Order early.

Great reduction in price. Former prices superseded. Select tested, \$1.50; Tested, 75c. Five Aparies to draw from. Can ship by return mail in any quantity.

E. D. KEENEY,

Importer and Breeder,

ARCADE, - NEW YORK

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HONEY BOXES

A FOLDING PAPER BOX

—FOR—

PROTECTING SECTIONS OF HONEY.

For Shippers and Retailers.

All boxes printed with your Business Card on front if desired.

Samples and Prices on application.

MUNSON & CO.,

30A13t New Haven, Conn.

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In order to keep our factory running during the fall and winter months, we will make a discount of 10 per cent. on all orders for Hives received before Jan. 1, 1891, and after that date, until March 1, we will make a discount of 5 per cent. from our Catalogue prices.

The experience of the last season should prompt every bee-keeper to have his supply of Hives, etc., on hand before the season commences, and avoid the rush.

THOS. G. NEWMAN & SON,

246 East Madison Street, - CHICAGO, ILL.

HANDLING BEES

A PAMPHLET, treating of the taming and handling of bees. Just the thing for beginners. It is a chapter from "The Hive and Honey-Bee, revised." Price, 8 cts. Advice to beginners, Circulars, &c., free.

CHAS. DADANT & SON,

Hamilton, Hancock Co., Ills

Muth's Honey Extractor,

Perfection Cold-Blast Smokers,

SQUARE GLASS HONEY-JARS, etc.

For Circulars, apply to

CHARLES F. MUTH & SON,

Cor. Freeman & Central Aves., CINCINNATI, O.

P. S.—Send 10c. for Practical Hints to Bee-Keepers.

Scientific Queen-Rearing

AS PRACTICALLY APPLIED;

Being a Method by which the very best of Queen-Bees are reared in perfect accord with Nature's Way; by

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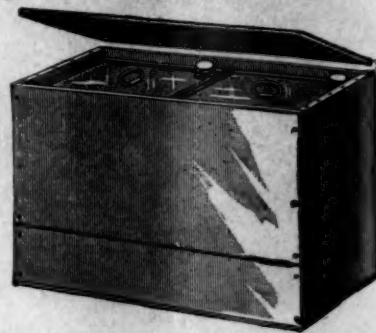
In this book the author details the results of his Experiments in Rearing Queen-Bees for the past four or five years, and is the first to present his discoveries to the World.

Bound in Cloth—176 pages—Price, \$1.00, postpaid; or, it will be Clubbed with the American Bee Journal one year, for \$1.75—with the Illustrated Home Journal, for \$1.25; or the two Journals and the Book for \$2.00.

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SQUARE HONEY CANS



The above illustration shows the 60 pound SQUARE HONEY CANS which are becoming quite popular for shipping extracted honey.

They are enclosed in a solid case of wood, and the boxes contain either one or two Cans as may be preferred.

We can furnish them at the following prices, with a 1 1/4-inch Screw Cap in the corner of each Can.

For the convenience of digging out candied honey, we can furnish these Cans with an

additional four-inch Screw Cap for 5 cents extra on each Can.

1 Single Can (boxed).....	\$.45
12 " Cans	5.00
100 " "	40.00
1 box of two Cans.....	.75
12 boxes	8.40
100 " "	65.00

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246 East Madison Street, - CHICAGO, ILL.

CARNIOLANS

Bees and Queens bred from Pure Imported Stock with great care. Send for circular giving full descriptions. queens in June, \$1. Address, E. L. PRATT, PRATT BEE FARM, Marlboro, Mass.

Special Hive Circular now ready. Send 10 cents for new method, post-paid. Italian Queens and Supplies. 3Atf

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Extra Thin Comb Foundation.

In 25-Pound Boxes.

WE CAN now furnish the Van Deusen EXTRA-THIN Flat-Bottom FOUNDATION put up in 25-lb. Boxes, in sheets 16 1/4 x 28 inches, at \$13.75 per box. 12 ft. to the lb.

The above is a special offer, and is a Bargain to all who can use that quantity.

All orders for any other quantity than exactly 25 lbs. (or its multiple) will be filled at the regular price—65 cents per lb.

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LOOK HERE!

TESTED Italian Queens, \$1.00 each: Untested, 75c.; 12-pound Shipping Cases in flat, per 100, \$6.00; 2x9 glass for same, per 100, 70c.; per 500, \$3.00. Price-List free.

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20A1y ROCHESTER, Oakland Co., MICH.

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